

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

1. (currently amended) An information processing system comprising:
a memory unit; and
a memory controller,
wherein said memory controller comprises:
storing means for storing changeable memory control timing information,
monitoring means for monitoring an operating state of said memory unit,
a register for setting therein the memory control timing information from said memory control timing information storing means, and
control means for controlling an access timing to said memory unit based on the memory control timing information in said register and for dynamically changing, during operation of said memory unit, the information stored in said memory control timing information storing means based on information from said monitoring means.
2. (previously presented) A system according to claim 1, wherein said memory unit includes a mixture of a plurality of groups of memory elements different in operation, and
wherein said storing means stores the memory control timing information corresponding to each of said groups of memory elements.

3. (previously presented) An information processing system comprising:

- a memory unit; and
- a memory controller,

wherein said memory controller comprises:

- storing means for storing changeable memory control timing information,
- monitoring means for monitoring an operating state of said memory unit,
- a register for setting therein the memory control timing information from said memory control timing information storing means, and
- control means for controlling an access timing to said memory unit based on the memory control timing information in said register and for dynamically changing the information stored in said memory control timing information storing means based on information from said monitoring means,

wherein said memory unit comprises:

- an environmental sensor for monitoring a temperature and a current, and

wherein said control means updates information stored in said storing means so as to delay an operation timing to said memory unit in response to a notification indicating that a temperature rise around said memory unit or a current value from said environmental sensor exceeds a reference value.

4. (previously presented) An information processing system comprising:

- a memory unit; and

a memory controller,
wherein said memory controller comprises:
storing means for storing changeable memory control timing information,
monitoring means for monitoring an operating state of said memory unit,
a register for setting therein the memory control timing information from said
memory control timing information storing means,
control means for controlling an access timing to said memory unit based on
the memory control timing information in said register and for dynamically changing
the information stored in said memory control timing information storing means
based on information from said monitoring means, and
a memory fault detector circuit, and
wherein said control means, in response to a detection by said detector circuit
that a particular group of memory elements fails, updates stored information
corresponding to said group of memory elements in said storing means so as to
delay an operation timing to said memory unit.

5. (previously presented) An information processing system
comprising:

a memory unit; and
a memory controller,
wherein said memory controller comprises:
storing means for storing changeable memory control timing information,
monitoring means for monitoring an operating state of said memory unit,

a register for setting therein the memory control timing information from said memory control timing information storing means,

control means for controlling an access timing to said memory unit based on the memory control timing information in said register and for dynamically changing the information stored in said memory control timing information storing means based on information from said monitoring means, and

a memory fault detector circuit, and

wherein said control means, in response to a detection by said detector circuit that a particular group of memory elements fails and that the fault has degraded performance in a particular operation, updates stored information corresponding to said group of memory elements in said storing means so as to delay an operation timing to said memory unit.

6. (currently amended) A memory controller for use in an information processing system and being adapted for connection with a processor and a memory unit, said memory controller comprising:

storing means for storing changeable memory control timing information;

monitoring means for monitoring an operating state of said memory unit to issue information related with said operating state;

a register for setting therein memory control timing information from said memory control timing information storing means; and

a control circuit for controlling an access timing of said memory unit based on the memory control timing information in said register and for dynamically changing,

during operation of said memory unit, the information stored in said memory control timing information storing means based on operating state information from said monitoring means.

7. (previously presented) A memory controller for use in an information processing system and being adapted for connection with a processor and a memory unit, said memory controller comprising:

storing means for storing changeable memory control timing information;

monitoring means for monitoring an operating state of said memory unit to issue information related with said operating state;

a register for setting therein memory control timing information from said memory control timing information storing means; and

a control circuit for controlling an access timing of said memory unit based on the memory control timing information in said register and for dynamically changing the information stored in said memory control timing information storing means based on operating state information from said monitoring means,

wherein said memory unit includes an environmental sensor, and

wherein said change control circuit changes said timing information stored in said timing information storing means based on environmental data on said memory unit from said environmental sensor.

8. (previously presented) A memory controller for use in an information processing system and being adapted for connection with a processor

and a memory unit, said memory controller comprising:

storing means for storing changeable memory control timing information;

monitoring means for monitoring an operating state of said memory unit to issue information related with said operating state;

a register for setting therein memory control timing information from said memory control timing information storing means; and

a control circuit for controlling an access timing of said memory unit based on the memory control timing information in said register and for dynamically changing the information stored in said memory control timing information storing means based on operating state information from said monitoring means, and

wherein said environmental data on said memory unit from said environmental sensor includes a change in temperature around said memory unit, and a current value of said memory unit.

9. (previously presented) A memory controller according to claim 6, wherein said memory unit includes a mixture of a plurality of groups of memory elements different in operation; and

wherein said timing information storage means stores memory control timing information corresponding to each said group of memory elements.

10. (previously presented) A memory controller for use in an information processing system and being adapted for connection with a processor and a memory unit, said memory controller comprising:

storing means for storing changeable memory control timing information;
monitoring means for monitoring an operating state of said memory unit to issue information related with said operating state;
a register for setting therein memory control timing information from said memory control timing information storing means; and
a control circuit for controlling an access timing of said memory unit based on the memory control timing information in said register and for dynamically changing the information stored in said memory control timing information storing means based on operating state information from said monitoring means,
wherein said monitoring means includes a memory fault detector circuit for detecting a fault in a particular group of memory elements to output information indicative of the fault, and
wherein said change control circuit changes stored timing information corresponding to said group of memory elements in response to the output information from said memory fault detector circuit.

11. (previously presented) A memory controller according to claim 10, wherein the fault detected by said fault detector circuit is degraded performance in a particular operation of a group of memory elements.